## CNTSC Calendar

### CNTSC Technology Advisory Board Meeting

November 4, 2009
CNTSC, Ft. Worth, Texas

Contact Ron Williams, CNTSC Director, at 817-509-3328, or ron.williams@ftw.usda.gov

### Central State Resource Conservationists' Workgroup Teleconference

November 10, 2009, 11:00 a.m. CST

Contact Cheryl Simmons, CNTSC Technology Specialist, at 817-509-3314, or cheryl.simmons@ftw.usda.gov

### Central States GIS Workgroup Teleconference

November 10, 2009, 10:00 a.m. CST

Contact Dwain Daniels, CNTSC GIS Specialist, at 817-509-3358, or dwain.daniels@ftw.usda.gov

### Central State Resource Conservationists' Workgroup Teleconference

January 12, 2010, 11:00 a.m. CST

Contact Cheryl Simmons, CNTSC Technology Specialist, at 817-509-3314, or cheryl.simmons@ftw.usda.gov

### Central Environmental Engineers' Teleconference

January 14, 2010, 11:30 a.m. CST

Contact Cherie LaFleur, CNTSC Environmental Engineer, at 817-509-3303, or cherie.lafleur@ftw.usda.gov

### Central State Soil Scientists' Technology Workgroup Teleconference

January 14, 2010, 10:00 a.m. CST

Contact Edward Griffin, CNTSC Soil Scientist, at 817-509-3304, or edward.l.griffin@ftw.usda.gov

### Central State Conservation Engineers' Teleconference

January 19, 2010, 10:00 a.m. CST

Contact Jerry Walker CNTSC Agricultural Engineer, at 817-509-3387, or jerry.walker@ftw.usda.gov

## CNTSC Contact Information

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**501 West Felix, Building 23**
**Fort Worth, Texas 76115**
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**Fax - 817-509-3336**
www.nrcs.usda.gov/about/ntsc/central/


## Director's Message

*We are pleased to present this Central National Technology Support Center (CNTSC) fiscal year (FY) 2009 Summary Report of Accomplishments. We hope that you find this summary report informative.*

*During FY 2009, we completed 383 requests for assistance, of which, 255 (67%) involved providing direct technical assistance, technology transfer, and training to the States.*

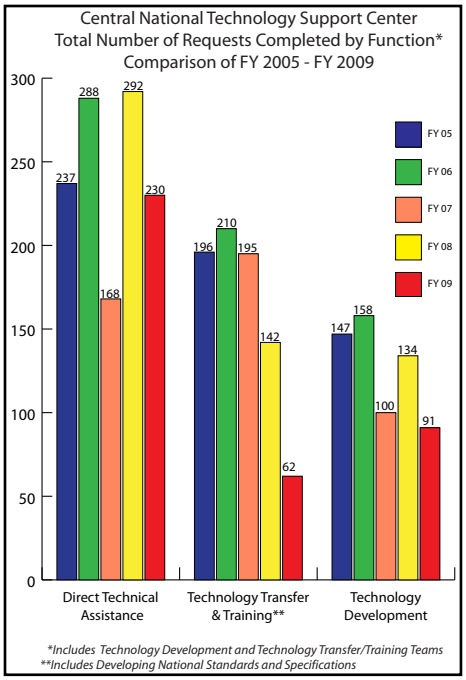
*Our CNTSC specialists were engaged in providing national leadership and support for a number of key science and technology areas. A few of these areas included: developing strategies to facilitate completion of ecological site descriptions (ESD); development and testing of features in the Wind Erosion Prediction System (WEPS) model; and supporting the Conservation Measurement Tool (CMT) for the Conservation Stewardship Program (CSP).*

*The CNTSC remains committed to providing you, the States, with technical services and tools that are relevant to meeting your needs.*

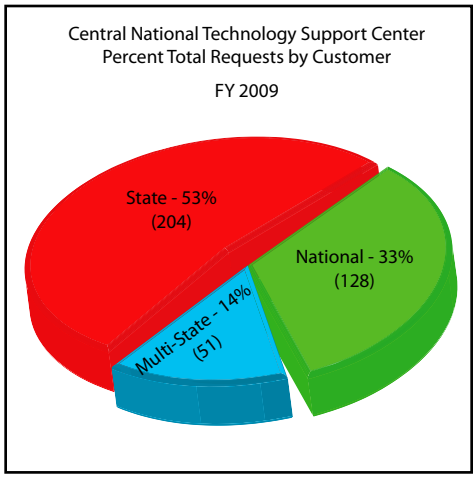
*We appreciate the opportunity to assist you.*

*RONALD C. WILLIAMS,*
*CNTSC Director*

## Technology Transfer & Training

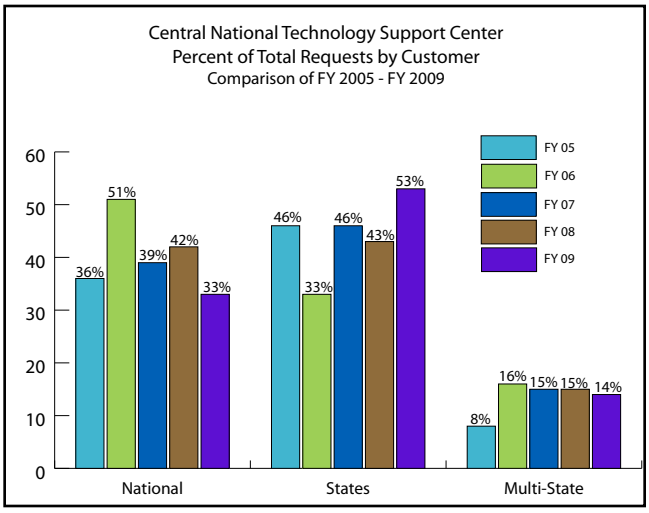



*Graphic 1.1*




*Graphic 1.2*

*CNTSC Staff completed 383 requests for assistance in FY 2009.*




*Graphic 1.3*

## High Resolution Digital Elevation Data Workshop Conducted

A Central Service Area High Resolution Digital Elevation Data (HRDED) technical workshop was held at the NRCS Nebraska State Office in Lincoln, Nebraska, August 11-13, 2009. The primary goal of this HRDED workshop was to provide geographic information system (GIS) State specialists training and hands-on experience in many of the different aspects in working with high resolution digital elevation data.

There were 43 participants attending this technical workshop from 14 States, five National Centers, and two other Federal agencies. Topics included:

1. Acquisition efforts and lessons learned by the GIS specialists currently acquiring and using HRDED in four States.
2. A detailed lecture covering Light and Distance Ranging (LIDAR) data production by leading industry experts.
3. Current contract vehicles to obtain LIDAR and Interferometric Synthetic Aperture Radar (IFSAR) data.
4. Evaluation of different data provisioning schemes and data storage alternatives.
5. Demonstration of new software and tools developed to work with HRDED.
6. Hands-on exercise using software currently available to NRCS for working with HRDED.
7. Guidance for appropriate use of HRDED from experts representing soil survey, hydrology, and engineering applications.
8. Examples were provided of new innovative applications such as using this data for determination of vegetative conditions, acreage of grass/shrub/trees in rangeland and existing geoprocessing models for calculation of small watershed or catchment areas, average watershed slope, and other terrain analysis applications.

*HRDED workshop participants*

This was a very beneficial experience for all of the participants. This workshop was the initial step in developing an overall National NRCS elevation data strategy. For additional information on HRDED, contact Dwain Dainels, CNTSC GIS Specialist, at 817-509-3358 or dwain.daniels@ftw.usda.gov.

## Liner Design for Animal Waste Containment Training Available

Cherie LaFleur, CNTSC Environmental Engineer, was the technical coordinator and served as an instructor for the NEDC course "Liner Design for Animal Waste Containment." The training covered compacted clay liners; soil dispersants and bentonite; soil liners treatment with soil additives; flexible geo-synthetic liners and geo membranes. The main focus was planning and design for liners in animal waste containment structures and the determination of appropriate geo-synthetic materials for selected sites. It also covered quality control and quality assurance tests in selection, design, installing, and field testing of liner and geo-synthetic liner systems.

For additional information on this training, contact Cherie LaFleur at 817-509-3303 or cherie.lafleur@ftw.usda.gov.

# Grazing Lands Team Activities

### *Riparian Workshop in Kansas*

The Grazing Lands Team assisted the State of Kansas host a Riparian Ecological Site Description (ESD) Development Workshop during August 2009. This was the first ESD riparian workshop to be held within the Central service area and conservation partners and CNTSC States were well represented. The workshop focused on the national strategy to better define how riparian ecology is written in ESDs. A second ESD riparian workshop is planned for North Dakota during 2010. Contact Homer Sanchez at 817-509-3227 or homer.sanchez@ftw.usda.gov for further information.

*CNTSC Staff assisted with ESD Riparian Workshop in Kansas*

### *GIS-ESD Tool*

The Grazing Lands Team is working to develop strategies for utilizing Geographic Information System (GIS), Soils Data Mart, and Ecological Sites Information System (ESIS) data to produce a geo-reference tool for correlating ecological sites. Expert GIS support is provided by Dwain Daniels, CNTSC GIS Specialist. Plans are to utilize the combined database information to evaluate the potential for establishing a Geo-Data Model to facilitate resolving soil and vegetation correlation discrepancies for the ESD effort. Web Service opportunities are being evaluated to allow the display of ESD status maps by State, region, or nationally.

Two national Live Meeting conferences were sponsored during October 2009 to obtain field input on what services the tool should provide. Staff was encouraged to continue to partner towards the development of the ESD/GIS/Soils products.

### *National ESD Implementation Strategy*

The CNTSC Grazing Lands team is assisting NHQ in the development of a National ESD Implementation Strategy. A national strategy is being developed to increase the rate of ESD completion and to improve the quality of products developed.



# Wetland Team Activities

### *Training Provided*

- Wetland Restoration and Enhancement – Iowa and Oregon
- Wetland Identification and Delineation, NRCS on-site methods – South Carolina and South Dakota
- Hydric Soils for Wetland Delineation – Wisconsin
- Wetland Plant Identification – West Virginia, Louisiana, and South Carolina

### *Technical Notes and Paper Presentations*

- Engineering Technical Note "Restoration of Fluvial Systems" developed.
- Paper presented at the River Restoration Northwest (RRNW) conference on the Restoration of Fluvial Systems.
- Paper presented at the American Society of Agricultural and Biological Engineers (ASABE) titled "Restoration of Fluvial Systems - the Need for an Integrated Approach to Streams, Floodplains, and Wetlands."

### *Wetland Plant List Revision*

The National Wetland Team led NRCS involvement in revising the Wetland Plant List (List). In 2007, the List's upkeep and maintenance was transferred from the US Fish & Wildlife Service (FWS) to the Corps of Engineers (COE) via an interagency (NRCS, COE, Environmental Protection Agency (EPA), and FWS) Memorandum of Agreement (MOA). This MOA sanctioned the first revision to the List since 1988. The revision is being performed by one national Plant Panel, composed of ten Regional Plant Panels, all staffed by botanists & ecologists from the four agencies that signed the MOA. The NRCS National Wetland Team coordinates NRCS efforts on the Regional Panels. In addition to the National and Regional Plant Panels, this revision includes analysis, evaluation, and review from academia, states, and tribes. The List is anticipated for release through the Federal Register early in 2011.

# Wildlife Team Activities

### *Presentations*

Dr. Bill Hohman presented a paper coauthored by Joel Douglas, CNTSC Plant Materials Specialist, at the Annual Meeting of The Wildlife Society entitled "Wildlife considerations in the production of grass-based biofuels" as part of a special session reviewing plant materials and wildlife habitat management plans. Bill also presented a paper at the National Conference on Ecosystem Restoration on "Restoration of Biological Functions to Conservation Buffers in Intensive Agricultural Regions of the Upper Midwest". Bill then traveled to Nebraska City to assist in the instruction of the NEDC sponsored "Conservation Buffers" course. In the course of these activities Bill assembled a 69 page annotated bibliography of all the pertinent research on the fish and wildlife considerations of conservation buffers, which is available by request.

Steve Brady, Wildlife Technology Team Leader, and Cheryl Simmons, CNTSC Technology Specialist, hosted a Pollinator Conservation Workshop at the Soil and Water Conservation Society Annual Meeting in Dearborn, Michigan. They shared ideas on incorporating pollinator conservation activities into NRCS programs.

Steve Brady participated on a Pollinator Conservation Panel "Give Bees a Chance" at the Asian and Pacific Islanders and Federal Women's Special Emphasis Program Managers Annual Conference in Sacramento, California.

*Bees are valuable pollinators.*

Steve Brady assisted Wendell Gilgert, Kathryn Boyer, and Jeff Repp from the West National Technology Service Center and staff from the Montana State Office develop protocols for Ecological Site Descriptions of riparian areas. The team tested several data collection schemes on riparian areas near Bozeman, Montana.

Steve Brady participated on a technical team with the Conservation Delivery Streamlining Initiative (CDSI) in evaluating Resource Inventory and Decision Support activities used in conservation planning. The CDSI products will be delivered over the next four years.

Steve Brady assisted an interagency team of USDA staff in preparation for the next Resources Conservation Act (RCA) Appraisal which is due to Congress next year.

*Developing Ecological Site Descriptions for riparian areas.*

## WEPS Continues to Move Forward

The Wind Erosion Prediction System (WEPS) has made steady progress toward release to the field offices next year. The Agricultural Research Service (ARS) Wind Erosion Research Unit in Manhattan, Kansas, has added Windgen Interpolation, a much needed feature, to the WEPS model. This WEPS feature will now provide the user a unique wind data record for each field where the model is used. This feature will be used on all fields east of the Rocky Mountains and will allow smooth transitions from one wind station to another. Mike Sporcic, CNTSC Wind Erosion Specialist, has finished testing this feature, and will assist with the final round of testing and training in the central and eastern States.

Work continues in the West to assure the selected wind stations provide correct answers. West of the Rockies, wind stations will be selected using a GIS map installed in the model. New stations are needed in areas with no data, and stations are being established and tested to fill in these gaps. This work for the States of Washington and Oregon has been completed.

For additional information, contact Mike Sporcic at 817-509-3213 or mike.sporcic@ftw.usda.gov.

*Mike Sporcic, CNTSC Wind Erosion Specialist, at the wind station in Garden City, Kansas.*

## WinDAMb Testing Workshop

A WinDAMb Testing Workshop was held in Stillwater, Oklahoma, September 1-3, 2009 for national testers in NRCS and ARS. Tony Funderburk, P.E., CNTSC Agricultural Engineer, is one of the national testers.

*Tony Funderburk (far right), CNTSC Agricultural Engineer, attended a workshop for WinDAMb testing in Stillwater, Oklahoma.*

Windows Dam Analysis Modules (WinDAM) is a modular software application being developed for the analysis of overtopped earth embankments. The model includes a computational model addressing the routing of a flood through the reservoir, with dam overtopping and evaluation of vegetation or riprap to delay or prevent failure of the embankment. The SITES Spillway Erosion Analysis routine allowing spillway integrity analysis to be performed on one or more earth spillways, based on the computed routing, and the erosion failure model for homogeneous embankments are also computed. The approach to developing this failure model is to first develop a research-oriented model for use in analyzing data from embankment breach tests conducted in the United States and Europe. This SIMplified Breach Analysis (SIMBA) model is designed to allow application of different computational procedures to data analysis for the purpose of increasing understanding of the process and determining the approach best suited to field application in the WinDAMb model. It is anticipated that WinDAM will continue to be expanded and developed, and that later expansion of the WinDAM will include analysis of breach due to internal erosion; berm, groin, and toe erosion and protection; and breach prediction of non-homogeneous embankments.

Tony G. Funderburk, P. E., is the National Technical Contact for the WinPond computer program and can be contacted at 817-509-3289 or tony.funderburk@ftw.usda.gov for assistance or training on WinPond 2007.

## Hydric Soils for Wetland Delineation Training

Ed Griffin, CNTSC Soil Scientist, provided technical coordination for the Hydric Soils for Wetland Delineation Course, held in Siren, Wisconsin, August 17-21, 2009. This training enables employees to perform hydric soils determinations, field delineations, and wetland restoration using standard techniques of soil science. It also enables participants to develop complete and technically accurate documentation which is very important when performing wetland delineations.

Thirty-one participants attended the training. Their experience and skill levels with hydric soils delineations ranged from minimum to a few with some experience with the activity. As the training was completed, participants were able to:

*Participants in the Hydric Soils for Wetland Delineation Course gain experience in the field.*

- Improve the quality of wetland delineation and restoration.
- Improve the efficiency and credibility of wetland delineations delivered to the public.
- Prepare thorough documentation to reduce the duplication of efforts in the number of appeals, litigation, and elevated cases.

For more information, contact Ed Griffin at 817-509-3304 or edward.l.griffin@ftw.usda.gov.

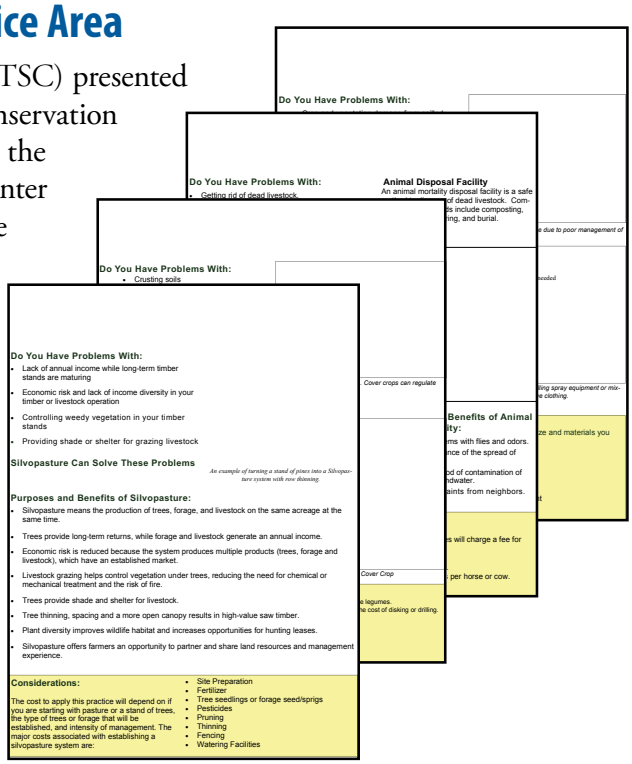


## FY 2009 Highlights of Core Team Activities

- Jerry Walker, CNTSC Agricultural Engineer, provided irrigation system planning, design, evaluation, and trouble-shooting training for NRCS employees in Louisiana, which included 3 days in the classroom, a 2-day field recon visit to select test sites, and two weeks conducting training in field pumping plant evaluation and testing.
- During June 2009, central States welcomed the roll out of the Ecological Site Description (ESD)/Forage Suitability Group Description (FSGD) Implementation Strategy for the Central Service Area. All central States attended one of the four roll out sessions (net conferences) that provided an overview of the strategy and described easy access to critical documents and tools.
- A national technical note entitled "Planting and Managing Switchgrass as a Biomass Energy Crop" was prepared by Joel Douglas, CNTSC Plant Materials Specialist, in cooperation with Plant Materials Center (PMC) specialists in Kansas and New York.
- Tony G. Funderburk, P.E., CNTSC Agricultural Engineer, conducted a WinPond Workshop for 14 Colorado technicians and engineers. WinPond is a computer program for the field application of pond designs, intended to assist engineers, conservationists, and engineering technicians in the design of ponds and structures.
- Ed Griffin, CNTSC Soil Scientist, and Dwain Daniels, CNTSC GIS Specialist, assisted the National Soil Survey Center (NSSC) and National Employee Development Center (NEDC) to develop course materials for Distance Learning with the Adobe Connect Pro software and are course instructors.
- CNTSC Natural Resources Specialist Cheryl Simmons, is coordinating with Kansas NRCS, the local Resource Conservation and Development (RC&D) Council, the North Central Sustainable Agriculture Research and Education (SARE), and the Kansas Black Farmers Association (KBFA) to connect strategically to small farm groups in the Central service area and nationally.
- Dwain Daniels, CNTSC GIS specialist, provided tablet computer and GPS training as part of Louisiana's MLRA soils survey reorganization effort.
- A team of ARS and NRCS specialists are working to incorporate wind erosion on high organic soils into the Wind Erosion Prediction System (WEPS).

## Small Farm Worksheets Adapted for Central Service Area

Early in 2009, the East National Technology Support Center (ENTSC) presented Small Farm Information Sheets at the National Association of Conservation Districts Meeting held in New Orleans, Louisiana. Working with the ENTSC's templates, the Central National Technology Support Center (CNTSC) has updated and added templates for the Central service area. New sheets include Farmstead Windbreaks, Abandoned Well Plugging, and Fuel and Firebreaks.




For your information and use, the new and updated Central templates and newest ENTSC's Small Farm Information Sheets are on the CNTSC Training and Technology Transfer SharePoint site located at: https://nrcs.sc.egov.usda.gov/st/CNTSC/TechTransferandTraining. As needed, please feel free to modify words and pictures to fit your situation at the State and field.

If you have questions or wish to provide feedback on the Small Scale Information Sheets, please contact Cheryl Simmons, National Technology Specialist, CNTSC, at: 817-509-3314 or cheryl.simmons@ftw.usda.gov

## Fluvial System Workshop Held in Michigan

Introduction to Fluvial System Stabilization and Restoration training was held in Traverse City, Michigan in May 2009. Rich Weber, CNTSC Wetland Hydraulic Engineer on the Wetland Technology Development Team , and Romy Myszka, CNTSC Wildlife Biologist, worked with Jon Fripp, Stream Mechanics Engineer for the National Design, Construction, and Soil Mechanics Center, to present the 3-day workshop.

For additional information on this training, contact Rich Weber at 817-509-3576, or richard.weber@ftw.usda.gov.

*Rich Weber (above right) explains soil hydrology to workshop participants. Romy Myszka (left) discusses wildlife biology.*

*Participants in the Fluvial System training (left) learn methods to stabilize and restore damaged streambanks (above).*